THREE CASES OF



SYMPATHETIC OPHTHALMITIS

SETTING IN THREE WEEKS AFTER EXCISION OF THE OTHER EYE

WITH ABSTRACTS OF CASES ALREADY PUBLISHED

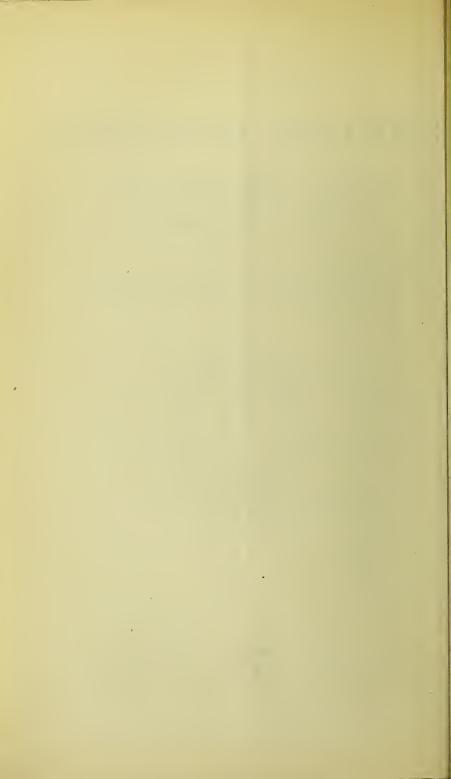
EDWARD NETTLESHIP

Reprinted from

Transactions of the Clinical Society of London Vol. XIII, 1880

Printers

SPOTTISWOODE & CO., NEW-STREET SQUARE, LONDON
1881



Three Cases of Sympathetic Ophthalmitis setting in Three Weeks after Excision of the other Eye. With abstracts of Cases already published. Read April 9, 1850.

THE occurrence of inflammation of one eye caused by disease of the other, but setting in after its enucleation disease of the other, but setting in after its enucleation, is so rare, and at the same time of such interest, both in its practical bearings and in regard to the etiology of the disease, that I think it desirable to communicate the two following cases, in which this result has unfortunately happened in my own practice. I have also to thank Mr. Cowell and Mr. Mackinlay for permission to add the notes of a third case which has lately occurred in the practice of the former gentleman at the Westminster Ophthalmic Hospital. So far as I know, only about six cases of the kind are on record, and of these abstracts are given at the end of this paper. have heard the occurrence mentioned in conversation with several surgeons, but in such, as well as in the majority of the published cases, the interval between the excision of the damaged (exciting) eye and the onset of sympathetic inflammation in its fellow has been very short, only a few days. The special point of interest in my own and Mr. Cowell's cases is the much greater length of this interval.

CASE I.

Removal of a shrunken fluid Cataract from an unsound and irritable eye; loss of vitreous; severe intraocular hæmorrhage forty-eight hours later. Enucleation ten days after extraction. Sympathetic inflammation of other eye with neuroretinitis, irido-cyclitis, and glaucoma, beginning twenty-two days after enucleation. Eye lost.

Charles Wilson, a pale, very nervous phthisical lad of 20, applied at the hospital on May 21, 1879, for advice respecting his right eye. I found complete white cataract with a large chalky-looking anterior polar (pyramidal) opacity projecting somewhat forwards, a large central nebula of the cornea,

with some pigment on its posterior surface, the eye rather irritable and T. doubtfully +. From the history it is probable that he had purulent ophthalmia in infancy with perforation of cornea, and pyramidal cataract, and that the whole lens became gradually opaque during the next nine or ten years. I strongly advised him to have nothing done, but he was so anxious that the appearance of the eye should be improved that I consented to operate.

May 23.—Attempted downward extraction under ether; lens fluid, but shrunken, and (though the capsule was certainly not wounded by the knife) escaped as soon as the iris forceps were introduced; a considerable escape of vitreous followed the iridectomy. During the next twenty-four hours neither vomiting nor pain, but the lids became a little swollen.

25. - Morning, some pain; two leeches. Evening, sudden

severe pain.

26.—Wound plugged by dark blood-clot, which, when snipped off, allowed the escape of a large quantity of dark fluid blood from the eye. Serous chemosis at lower part and a little swelling of lids. The pain ceased, and no fresh symptoms occurred. The eye was excised on June 2, ten days after the operation, and eight after the occurrence of the bleeding. There was not the slightest symptom of sympathetic affection of the other eye. The wound healed as usual, and he left the ward about three days later.

The excised globe, after being hardened, was found full of blood, chiefly in a thick layer between sclerotic and choroid, extending from the attachment of the ciliary muscle in front almost to the optic disc; on removing the blood the venæ vorticosæ, and further back some of the ciliary nerves, were seen traversing the interval. There was a thinner layer of blood between retina and choroid, and also some in the vitreous; the wound was plugged partly by clot, partly by firm altered vitreous. Sections were made of the optic disc and surrounding parts, numerous sections of the ciliary nerves just behind the sclerotic being included. There was very great increase in the nuclei of the nerve-fibre layer of the retina, and in the optic disc and nerve as far as the sections extended; the change seemed to affect chiefly the nuclei proper to the nerve fibres, for the lamina cribrosa and the fibrous septa between the bundles of nerve fibres in the nerve trunk behind it showed little or no increase, nor were the nuclei specially related to blood-vessels. The nuclei in the optic nerve varied much in size, and were for the most part rather

pale, oval or rounded, and finely granular, quite different from those of the intervening connective tissue. The disc was not at all swollen. The choroid close to one side of the disc was densely crowded by round pus-like corpuscles; elsewhere it was thickened and corrugated, but showed no marked inflammatory changes. In the sections of ciliary nerves, a considerable space was often present between the nerve and its fibrous sheath, and the axis cylinders were usually less distinct, and yet looked thicker than in healthy sections taken at the same part. As the specimen was, however, hardened in weak alcohol instead of Müller's fluid, these changes may have been due to the action of the reagent. In many parts there was a considerable collection or infiltration of cells in the tissue just external to the ciliary nerves, but the nerves themselves did not show any appreciable increase of nuclei.

On June 24 (twenty-two days after excision, and thirty-two after cataract operation), whilst lying in bed in the morning the patient noticed that a dimness gradually came over the sight of the remaining (L.) eye; at first it was almost blind, but sight returned almost perfectly in about ten minutes. Next day it again became dim, and continued to get rather worse till his visit a week later (July 2). He noticed that it was generally worse in the

morning.

July 2.—Mr. Davidson noted slight ciliary congestion, V. $\frac{20}{70}$ and 14 Jaeger, T.n, disc hazy and very indistinct, retinal

veins enlarged and rather tortuous.

3.—I saw him and noted discoloration of the lower part of aqueous, V. $\frac{20}{50}$ and 14 Jaeger, T.n.; pupil only dilates to $7\frac{1}{2}$ m.m. under atropine, oval upwards, and a ring of whitish opacity on lens-capsule; vitreous appears normal, disc more hazy, but not much swollen; no hæmorrhage or white patches.

4.—Readmitted to ward. Atropine every two hours, blue pill gr. ij. three times a day, black bandage, codliver-oil and quinine and iron. Urine free from albumen and sugar. Dr. H. U. Smith reported heart natural, but incipient phthisis

at R. apex.

7.—Less congestion.

11.—Congestion almost gone, but abundant keratitis punctata in the usual pattern, with rather large spots; cornea itself clear; no opacities visible in vitreous, but fundus seen with difficulty; an elongated retinal hæmorrhage near disc.

V. H. $\frac{1}{13} = \frac{20}{50}$; + 7 reads words of 6 Jaeger. Seton inserted

in temple.

12.—No salivation; subcutaneous injection of pilocarpine (gr. $\frac{1}{10}$) repeated daily till 18th (seven injections). First injection caused sweating and some salivation for half an hour. Next morning was well salivated.

14.-Mouth very sore; take one pill daily.

17.—Omit pill. He was kept more or less salivated almost without intermission for about ten weeks. In the early part of this time the eye was usually better when his mouth was sore, but towards the end this coincidence ceased, and a severe exacerbation came on whilst he was well salivated. Throughout the attack the congestion varied very much from day to day.

August 26 (after a month's salivation).— Punctate deposits on cornea quite gone; pupil as before, partially dilated (about 5 m.m.); texture of iris not much altered; details of fundus now invisible, probably owing to haze of vitreous,

though no separate opacities can be seen.

September 1.—Relapse of congestion and pain.

11.—Seton has cut out.

23.—Relapse, much congestion, cornea steamy, aching pain. Four leeches; reinsert seton behind ear.

24.—Very severe pain referred to head; no sleep last

night.

25.—Intolerable pain, continued all last night and to-day,

in L. side of head; no pain in face.

29.—Under croton chloral the pain quickly ceased. Eye s ill much congested. This relapse occurred during salivation, and when the weather had suddenly become colder; probably

he caught cold.

A few days later, the eye having again quieted down, he was discharged to his home, with careful directions, the mercury being stopped. The anterior chamber was shallow, and T. rather +, and remained so till his readmission for iridectomy early in the present month (January 1880). Whilst attending as an out-patient the eye became on the whole quieter, and V. improved a little; the ciliary region became dusky as the redness passed away, and the eye appeared elongated by ciliary stretching. About Christmas the sight began to vary very much from day to day, and before iridectomy I made out that the disc was pale and cupped, and that there were disseminated patches of choroidal disease (atrophy?). At the operation the iris was

soft and 'rotten,' but not firmly adherent, and a good piece was removed. P.S. The anterior chamber did not reform, T. remained +, and the eye has slowly become quite blind.

CASE II.

Wound or rupture of sclerotic close to cornea, united by suture immediately. Enucleation nineteen days after accident, no sympathetic symptoms being present. Serous iritis, opacities of vitreous, and detachment of retina setting in twenty-three days after enucleation. Good recovery with subsidence of retinal detachment. Toxic symptoms from use of duboisin drops.

Henry Lee, 67, carpenter, wounded or ruptured his left eye with his screwdriver on February 20, 1879. Admitted at eye department one hour afterwards. A moderately large wound of sclerotic and conjunctiva at upper part, just behind sclero-corneal junction (the usual seat of rupture) with prolapse of iris. The anterior chamber contained blood, but as there was good perception of light, and the wound was of only moderate extent and quite fresh, I determined to try to save the eye. When the prolapse of iris was cut off some vitreous escaped; a single suture was inserted in the sclerotic, and the patient put to bed with constant iced compresses to the lids. Operation finished in less than two hours from the accident.

21.—Slight pain and chemosis.

22.—More chemosis, conjunctiva snipped.

27.—Considerable muco-purulent discharge; chemosis as before; nitrate of silver.

March 3.—Less chemosis; doubtful perception of light. Discontinue ice.

4.—Suture removed.

6.—Doubtful perception of light; discharge continues, T.-1. No trace of sympathetic irritation. Excision advised, as eye was evidently lost, but refused by patient.

11.—Infiltration of cornea near the wound; other symptoms unchanged. Eye excised (nineteen days after accident). No union of wound; cornea thickened and infiltrated; lens clear; some blood in vitreous and between retina and choroid, but choroid and sclerotic everywhere in apposition. Wound healed as usual, and in a few days he left the ward.

April 3 (twenty-three days after excision, and forty-

two after accident) —He complained of some pain in the other eye. The eye, however, showed no external signs of mischief, and, as he was nervous and fidgetty, not much notice was taken.

On the 9th (twenty-nine days after excision), however, there was acute serous iritis, but without much affection of sight; eye much congested, anterior chamber shallow, T. ? +, cornea and aqueous clear, pupil active, but a synechia revealed at upper-inner part by atropine; iris tissue not muddy; some nuclear haze of lens; vitreous not thoroughly examined. V. (before use of atropine) $\frac{20}{0}$, Hm. $\frac{1}{30} = \frac{20}{50}$; + $\frac{1}{8}$ = 1 Jaeger. There was not much pain. He was a pale, lean, nervous old man, talkative and credulous; hair dark and scarcely turning grey; no rheumatism, gout, or syphilis. In the absence of any other assignable cause for the attack, I attributed it to sympathetic influence.

Ordered three leeches, and duboisin drops for the eye. Next day (April 10) readmitted to ward, and duboisin to

be continued every two hours.

11.—Two leeches. After a few applications of duboisin (gr. iv. to 3j) he became so intoxicated and delirious* that the duboisin was discontinued, and none was used after 12th; toxic symptoms quite ceased on afternoon of 13th.

14.—Atropine (gr. iv. to 3j) three times a day; two leeches. Though the atropine was continued for many days

he had no return of toxic symptoms.

17.—Complains that he cannot see so well; has been in

bed ever since admission.

21.—V. much worse, cannot count fingers. Congestion nearly gone; pupil round, but not fully dilated; large detachment of retina at lower and outer part of fundus. (Is quite sure that this eye has not been struck or injured in any way).

May 8.—V. improving, counts fingers at 4', fixation central. 12.—Much better; V. H. $\frac{1}{30} = \frac{200}{100}$; $+\frac{1}{6}$ = some words

of 14 Jaeger.

15.—Large detachment of retina still present at outer part and another at inner part, the two folds meeting at the top; the innermost fold is visible by focal illumination; opacities in lower part of vitreous; disc barely visible.

29.—Improving. Left the ward.

June 5.—V. $+\frac{1}{8} = 8$ Jaeger well, and words of 4 Jaeger.

July 3.—Pupil oval and sluggish.

^{*} Published in the Lancet, Sept. 6, 1879. Case 2.

October 23.—Pupil sluggish; V. $+\frac{1}{8} = 8$ Jaeger.

November 19.—V. as before. Examined under atropine. Nuclear haze and cortical striæ in lens; numerous small opacities in vitreous; no trace of retinal detachment in any part; patches of doubtful choroidal atrophy at periphery; disc and retinal vessels natural. Condition of sight sufficiently accounted for by the partial cataract which was present before the attack.

CASE III. (Under the care of Mr. COWELL.)

Wound of Cornea by piece of wood, with adhesion of Iris.

Purulent Cyclitis. Excision twenty-four days after accident.

Severe Iritis setting in twenty-five days after excision.

Recovery, with good sight. (Notes by Mr. Mackinlay.)

Robert D., æt. 11, was admitted into Royal Westminster Ophthalmic Hospital on September 20, 1879, under the care of Mr. Cowell.

Patient was chopping wood three days before; a chip flew

up, and he was struck by it on the right eye.

On admission, condition of right eye was as follows: A jagged wound through cornea, at its upper and inner part near the margin; one might almost say two wounds, one joining the other at a right angle to its centre. Globe was injected; no pain, but lachrymation and photophobia.

Mr. Cowell ordered fotus belladonnæ constantly. The next day, 21st, iris had acted to the belladonna, but there appeared to be a little tag of adhesion between the iris and cornea at its wounded part; lachrymation and photophobia, however, so great, that examination was made with great

difficulty.

During the next eight or ten days the symptoms of irritation slowly subsided, and by the first week in October the photophobia and lachrymation were gone; although the globe remained much injected, it was getting soft, and there was a greenish-white reflex from the fundus. On October 11, the globe being still greatly injected, the green reflex more marked, T. – 3, and V. = nil., the house-surgeon, at Mr. Cowell's request, extirpated the globe (patient being under influence of ether); the coats of the eye were unfortunately opened during the operation, and the contents escaped. On October 15 the patient was discharged, and with no symptoms of irritation in the remaining eye. On November 26 patient came up from the country and was again admitted.

He stated that his left eye had been bad about three weeks. He thought it was a cold, and had been attended by a doctor.

The condition of the eye was then as follows: Globe generally inflamed, but not excessively. The sclerotic vessels more injected than the conjunctival, and in the ciliary region more especially; no special pain, but lachrymation and photophobia. Iris rather muddy and not dilated. Mr. Cowell ordered fotus belladonnæ constantly, and guttæ atrop. gr. iv. once a day.

On November 29, iris had acted fairly well to belladonna and atropine; globe was less injected, and photophobia and lachrymation were also reduced. He was ordered to continue the local applications, and take mist. ferri c. quinâ 3ss. ter

die. Is on full diet and extra milk.

From November 29 until December 17 the same treatment was continued, no marked change taking place in the appearances of the eye, but it seemed to be slowly (very slowly) quieting down, and patient was certain that he could see better. He was now ordered two grains of hydrarg. c. cret. with two grains of quinine ter die.; the mixture to be discontinued, but the local applications as before.

On December 31 there remained only very slight injection of the globe, but iris was considerably bound down by lymph. Fundus could not be clearly seen with the ophthalmoscope. V=Jaeger 14 slowly. Patient left with guttæ atrop. gr. ij. ad 3j. Has not been up from the country since he left hospital.

Abstracts of Published Cases of Sympathetic inflammation setting in after excision of the other eye. (The numbering is continued from the Author's cases above given.)

CASE IV.

A woman, æt. 35; left eye lost by smallpox, staphylomatous and glaucomatous. No sympathetic inflammation, but, as the eye interfered with the use of the other, it was excised some months later. Five days after excision of left eye the right began to suffer from photopsiæ and attacks of cloudiness occupying entire field of vision and obscuring sight, vision being normal between the attacks. Examination showed haze of retina immediately surrounding disc and equatorial opacities in lens. Without further ophthalmoscopic change vision deteriorated considerably for a time; but (under blood-letting and mercury) the haze disappeared, and sight again became normal. But several months later cyclitis

with increased tension set in, and passed after several remissions into a decidedly glaucomatous state, for which iridectomy was performed with complete success. The refraction of the eye altered repeatedly during the course of the disease.*

Remarks.—In Nagel's abstract it is not stated how long

the left had been blind before excision.

CASE V.

A man, æt. 35, admitted July 1874, one day after perforating wound of centre of right cornea and lens. Purulent kerato-iritis, followed by swelling of orbital connective tissue and persistent pain; excision six weeks after accident.

'A few days' after excision localised pale conjunctival cedema at inner part of left eye, with sight down to 15 Snellen at 100 feet (150), but no ophthalmoscopic changes.

Four days later (September 15), neuro-retinitis, yellowspot region being especially affected, with contraction of visual field, especially at upper and outer part. Vigorous antiphlogistic and mercurial treatment. In six weeks visual field larger, optic disc still hazy. Some superficial choroidal changes (perhaps caused by the swelling of the retina E. N.). In two months, sight 15 Snellen at 50 feet (1.5). In six months no contraction of visual field; sight nearly normal, reads 1 Jaeger. Two years after onset of attack the eye remained well. †

CASE VI.

Excision for sclero-corneal wound, not a trace of sympathetic mischief having been present. Patient discharged apparently well. Two months later complained of photopsiæ, without defect of vision. Six months later neuro-retinitis, with general haze of retina, and sight down to 19 Jaeger. Final condition unknown. ‡

Remarks.—This case is so incomplete, and the interval between excision and observation of visible changes in the eye so long (about six months), that we must receive it with much caution. Even the interval between excision and the onset of the earliest subjective symptoms (about two months) is greater than in any other known case.

^{*} Hugo Müller, Inaugural Diss., 1873, quoted in Nagel's Jahresbericht, 1873, p. 316.

[†] Colsmann, Berlin. Klin. Wochenschr. 1877, No. 12. † Mooren narrated this case, previously unpublished, to Colsmann, who gives it with his own case, l. c. 1877.

CASE VII.

Patient, æt. 14, large wound of left cornea and sclerotic, with prolapse of iris and traumatic cataract by explosion of a glass bottle. Immediate excision refused. Wound healed, but eye was congested and painful from a day or two after accident until excision, twenty-seven days after, when it had begun to shrink. A large piece of glass was found in the globe. The excision wound healed in the usual manner. No trace of sympathetic affection had appeared up to date of excision, and six days after the operation the right eye was perfectly natural as to sight, accommodation, and condition of pupil. On ninth day after excision right showed commencing iritis, but no defect of sight. The symptoms increased, and 'gradually all the characters of a true sympataetic irido-choroiditis manifested themselves,' and against these all treatment was powerless. Active symptoms still present eight months after onset; vision only 19 Jaeger with difficulty.*

CASE VIII.

Perforating wound at outer edge of cornea by a file, inclusion of iris, wound of lens, and intrusion of an eyelash into anterior chamber. Excision four weeks after injury on account of severe ciliary pain, the other eye being entirely free from symptoms. Excision wound healed as usual.

On fourth day after excision the other eye became congested, and iritis soon followed, though sight remained normal. Energetic treatment with atropine and mercury, followed by complete cure. In the excised eye the ciliary body was detached from the sclerotic, and infiltrated with blood and cells, and the ciliary nerves showed accumulation of cells between their fibrillæ. †

CASE IX.

An intemperate carpenter, æt. 35, received a rupture of his right sclerotic, near the outer-upper margin of the cornea, by a fist blow, on March 28, 1878. Dislocation of lens beneath conjunctiva, anterior chamber full of blood, and no perception of light on the day after the accident. Lens removed by division of conjunctiva. Some pain during the next few

Jahresbericht f. 1874, p. 368.

^{*} Pagenstecher and Genth, Atlas of the Pathological Anatomy of the Eyeball, pl. xxxviii. fig. 12 (1875). † H. Schmidt, Klin. Monatsbl. f. Augenheilkunde, 1874, p. 179. Nagel's

days. Thirteen days after accident eye very tender and no p. l. Fifteen days after accident eye excised. Discharged from ward five days later. No sympathetic symptoms of

any kind were present at the date of excision.

From his subsequent statements it appears that on the day after his discharge from the ward the other eye became irritable. The onset of sympathetic *irritation* may, therefore, probably be put down at about six days after the excision (twenty-one days after the accident). He did not, however, attend again till a week after his discharge from the ward, when (twelve days after excision, twenty-eight days after accident) there was slight conjunctival irritation and watering, but vision normal, and the iris bright and active.

During the next three or four weeks the congestion varied, but was never severe, and was treated as conjunctivitis. During this time he was drinking.

On May 20 (thirty-eight days after excision and fifty-three days from the accident), photophobia and considerable ciliary

congestion, but pupil dilated widely to atropine.

23 (forty-one days after excision and fifty-six days from the accident).—Iritis and opacity of vitreous, with wide dull

ciliary congestion, V. p. l. Readmitted.

Treatment.—Calomel vapour baths to gentle salivation (nineteen in first nineteen days, ten in next three weeks), and occasional artificial leech. No improvement for first month, then rapid complete recovery, and discharged with normal vision two months after onset of iritis. Four months after his discharge V. remained $\frac{2.0}{2.0}$ and 1 J. held in the hand.*

Remarks.—There can, I think, be no doubt that the disease of the second eye in these cases was sympathetic. The only question which arises is whether the morbid process in the second eye was caused by the damaged eyeball, and had, before excision, travelled so far towards the healthy eye as to be out of reach; or was set up in the divided orbital structures by the operation.

The presumption is strongly in favour of its having been set up by the damaged eyeball, and not by the operation for its removal. There is scarcely room for doubt on this subject in those cases where the disease sets in only a few days after the excision, since it is, I believe, generally agreed that sympathetic inflammation scarcely ever begins sooner than

^{*} Mr. Brudenell Carter's case, reported by Mr. McHardy, St. George's Hospital Reports, vol. ix., pp. 496, 505, 508 (1878).

about two weeks after the injury or disease which gives rise In cases like some of those I have mentioned, where the interval was from three to six weeks, it must, however, be admitted that there was time enough for the disease to have occurred as the consequence of the excision, supposing this to be possible; but the following considerations seem to make it improbable that such is the case: If, in consequence of excision of the eyeball, changes could be set up in any of the orbital structures capable of originating sympathetic disease in the other eye, then we should expect sometimes to see the disease coming on at very long intervals, even several years, after the operation, and this, I believe, is unknown. Again, if the sympathetic disease were caused by the operation of enucleation, we should expect it then to be equally severe and destructive as in the ordinary cases caused by disease of the other eyeball. This, so far as we know at present, is not the case, for, amongst eight cases of post-operative sympathetic inflammation of which the history is complete, we find that recovery (usually perfect) took place in six, and blindness in only two; this proportion of recoveries is much higher than in the ordinary cases. Then, again, in all the nine cases under notice the excised eveball was in a state very likely to set up sympathetic disease. And, further, in none did any inflammation of the orbital parts occur after the excision, it being often expressly stated that the parts healed just as usual. It is true that in my own cases the scissors used happened to be loose at the hinge, and did not cut well, and that in Mr. Cowell's case the soft parts of the orbit were probably, in consequence of the eyeball being cut into, rather more disturbed than usual; but we have no reason for attributing to these facts any share in the later events. Lastly, the comparative mildness of the disease when it follows enucleation seems to show that the removal of the damaged eye, even after sympathetic inflammation is already declared in the other, may not be so useless as it is often held to be, and that the improvement of the sympathising eye which sometimes follows this proceeding is not a mere coincidence, but is really due to the removal of a persistently acting cause. Far from weakening our faith in the efficacy of enucleation as a preventive of sympathetic ophthalmitis, the cases now brought forward will strengthen us in insisting upon the very early removal of every eye which is spoiled for useful sight and is likely to set up sympathetic disease.

In both my own cases the sympathetic disease showed

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some unusual features. In case II., although the iritis was mild, extensive and deep detachment of the retina was present for a time. In case I. the earliest symptom was failure of sight, and neuro-retinitis was for the first few days almost the only change. It is remarkable that in three of the six published cases the disease began in the same unusual manner. In such cases, where the earliest visible changes occur in the optic disc and retina, it by no means follows, however, that the morbid process has travelled along the optic nerve. Inflammation of the choroid near to the optic disc generally gives rise to more or less of neuro-retinitis, and such a choroiditis might be expected if the ciliary nerves were, as is generally supposed, the paths by which the inflammation reached the eve. That the neuro-retinitis was in truth communicated from the adjacent choroid, and was not primary in the optic nerve, appears all the more probable from the fact that the anterior parts of the uveal tract (ciliary body and iris) almost invariably participated to a very marked extent in the inflammation.

